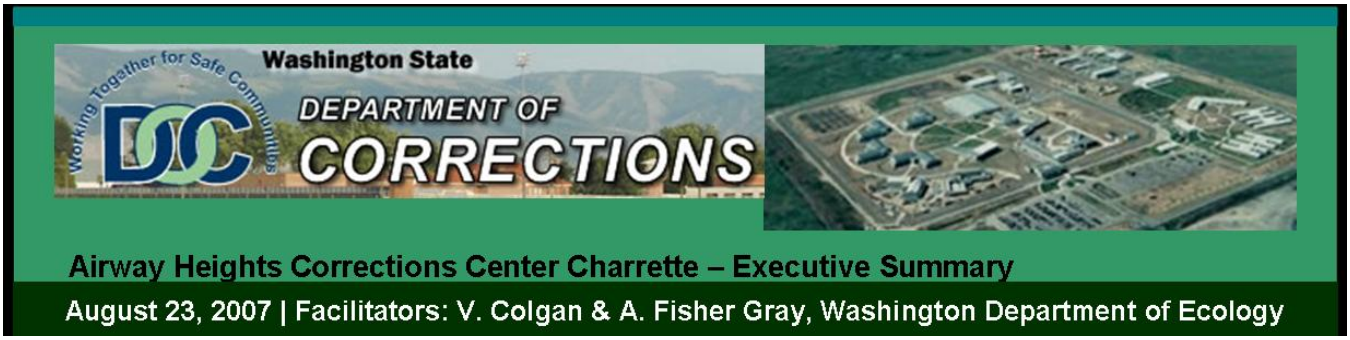

Airway Heights CC Charrette

Main entrance to Airway Heights Correctional Center

Meeting Details

On August 23, an interagency design charrette[1], hosted by Anna Crickmer, P.E., WA Department of Corrections' Project Manager for Capital Programs, was held from 8-4:30 in the main Administration Building at the Airway Heights Correctional Center, just west of Spokane. Stuart Simpson, WA Department of General Administration's Sustainable Building Coordinator, joined with WA Department of Ecology's Green Building Team members, Vicki Colgan and Allison Fisher Gray, in facilitating the meeting. All three facilitators are LEED Accredited Professionals.[2]

Charrette participants represented the many disciplines involved in erecting the new treatment program facility. Some joined the meeting as their specialties were discussed, and stayed as their schedules allowed. The roster of attendees is appended on page 13.

[1] French for "cart." The term refers to the conveyance that, on their exam day, collected the 19th century Parisian architecture students and their final projects. On the way to l'Ecole des Beaux Arts, the students would actively critique and assist each other to make their projects more successful. The term *charrette* has been adopted by the sustainable building community to denote the initial meeting(s) of all the stakeholders in a building project; the purpose is the same as for those long-ago students: diverse, informed viewpoints make better buildings. At charrettes, these ideas are elicited.

[2] LEED is the acronym of Leadership in Energy and Environmental Design, the sustainable building certification program created by the US Green Building Council. New state-funded construction over 5,000 square feet is required by the Revised Codes of Washington (39.35D RCW) to be built to LEED Silver standards. (Note: there are exceptions to this mandate. These include public schools and affordable housing projects, which must follow other sustainable building criteria/standards.)

Meeting Agenda

At design charrettes, participants brainstorm and evaluate sustainable building ideas, then set the green building goals for the project. Anna requested the day be organized to follow the Construction Specification Institute's MasterFormat™, commonly used by specifiers, but rarely used by charrette facilitators. She explained that this was the last opportunity for stakeholder input before the architect draws the blueprints. She wanted agreement on the specific details, and the identification of the LEED points possible, as well as probable, for the facility. The agenda prepared by Anna is on pages 14 and 15.

Participants and Initial Building Goals Desired

Anna started the charrette by giving a brief overview of the agenda, the new building project, its site, and the LEED Silver target minimum. For introductions, Vicki asked each attendee for their name, job title and what sustainable feature they would most like to see in the new project.

Allison captured the following responses on the whiteboard:

- $ (within budget, and saves money over its life)
- Integrated Design (mentioned by 2 people)
- LEED Gold (also mentioned by 2 people)
- Flexibility
- Turn-key workable
- Water savings 30% (or more)
- Sustainable
- Maintenance Manageable (mentioned by 3 people)
- Energy-efficient (Electrical & Mechanical)
- Daylighting (mentioned by 2 people)
- Green, Easy-to-Maintain Products
- Efficient Security
- Wonderful Building
- Superior Building

Whiteboard with green project goals

General Building Features

The proposed building will be a 10,000 square foot (SF) program facility for providing clinical psychological services to the sex offender population at the correctional center during the day and to other programs on the weekends and at night. The building needs to have a number of client interview and group therapy rooms, as well as offices for staff. Anna envisions a building that the 28-30 staff will "love to work in."

Site Particulars

The new building will be located in the medium security portion of the correctional center as shown in pink as 'P' on the AHCC map. (A larger, labeled copy of this map is on page 16.) It will be constructed between an existing two-story dormitory to the east and the Industries/Vocational Education building on its western side.

Map of buildings at AH Correctional Center

The project site is further constrained by a fenced, high-voltage electrical station (see site photo and inset below). For security reasons the building and access to it must be visible from the yard post to the north. AHCC facilities staff commented that the Fresh Air Pad has to move, and they will need adequate room between the buildings to drive a service vehicle. The existing road south of the site is their current service access route and has a stormwater advance along it.


View north of the project site from the service road
Inset shows a probable window view of the power station

This location also has room for a future Phase 2 expansion at a 90-degree angle to this new, Phase 1 facility.

Building Shape and Floor Plan (MasterFormat™ 01 and 02)

James Standish of Integrus Architecture presented the four layouts (A-D) he had prepared for group discussion. His sketches were based on the building needs analysis conducted by Anna in late May and

early June, where staff was interviewed regarding their space requirements (i.e. 20 SF per person – 20 people conference, etc.) and requests (i.e. daylighting, etc.) Care was taken by James and those present at the charrette to incorporate all the suggestions possible, since this user group could not attend.

Comments on each layout from the charrette participants included questions about and more review of the performance requirements. Short debates of key elements resulted in the following decisions:

- It will be a one-story building. There is more cost associated with two-story, which requires an elevator at $100K which in turn means eliminating two or three training rooms.
- Layout C and D were best for the required line of sight.
- Layout B and D entries (where the current project and a potential/future Phase 2 addition would meet) are too difficult – the location requires that offender/all traffic run the visual gauntlet of the neighboring dorm first and Phase 2 may never be built. The north entrance of Layout A and C is preferred.
- A simple axis design will allow rooms opening into two long corridors at least seven feet wide.
- Staff offices will be sited on the building's east side, 'client' rooms on west; dorm occupants' direct line of site into staff office windows as better than into therapy rooms. Also, staff is often gone from offices when working with inmates.
- Open staff workstations will allow maximum daylight, staff interaction, and minimal material use; hard-walled offices will be located in the interior for privacy.
- Though Layout D's angled wall gives staff better separation of view, its non-standard size is more costly and less flexible.
- An outside door to the mechanical /electrical room(s) is needed and it's OK if near the main entrance.

Layout C (shown in its original, unmodified form at right) emerged as the one preferred by the group with the following modifications[3]:

- Switch officer room and entry – the officer does not need to see directly into offender toilet.

[3] James' revised version of the C-'hybrid' layout was quick in coming. He created it the next day and Anna sent it for participant review on the 27th along with her revised Design Memorandum. The new drawing appears on page 17.

- Add a small storeroom in back for office supplies.
- Add a staff access door, in case the offender side needs to be locked down. It can be on a break room wall.
- Move inmate toilet across the hall and locate staff toilets adjacent to share utilities.

A lively discussion about the doorways developed: Could they be recessed? Sliding or pocket doors? Opening in or out? What about fire safety? Hallway visibility? Potential doorway barricading if opening in? Use as a weapon opening out? The prison's Captain of Security, Ron Haynes, helped the group wade through these questions to agree that staggered doorways opening into the room were preferable for this project, since this particular offender group is less prone to barricading (and even if done, it is readily remedied).

Structural Materials (MasterFormat™ 03 to 06)

Brief discussions regarding economy, security, local availability, recycled content, fire safety and ease of maintenance resulted in decisions to use slab-on-grade foundation, concrete block or tilt-up walls (the project engineer will chose), and steel framing. The latter allows for more flexibility in interior space use and daylighting opportunities. Any wood use will be as interior trim and is discussed with **Finishes**.

Thermal/Moisture Protection (MasterFormat™ 07)

An Energy Star®-rated roof will be 12-pitch with a 0.5 to 12' slope to accommodate winter snow. Installing light-reflecting roof materials to prevent heat island effects has to be balanced with the need to prevent direct glare into the neighboring dorms.

Everyone favored the suggestion to frame parallel to the roof ridge down the length of the building, with transverse steel girders/beams as needed. This method increases center ceiling volume to accommodate an elevated catwalk for easy maintenance access to building support systems. Suspended ceilings were deemed secure enough for use in the interior, except where 'client' supervision is minimal (restroom).

R-30 and R-10 rigid foam were specified for insulating the roof and walls respectively. Wall insulation is to be placed on the exterior.

Openings (MasterFormat™ 08)

The remaining decisions about doors were quick and straightforward: steel, 3.5-foot doors and frames (though some thought wider would be better), with four hinges, lever handles and mortise case locks. Access panels should also be metal with Best locks.

Window selection generated some spirited debate, so was addressed in two parts in the meeting. Because of the often-dust-filled outside air and the need for secure buildings for inmates, the group ultimately agreed that, while daylighting strategies could work, natural ventilation strategies would not. Secure, low-emissivity windows and their housings will be located higher on walls to provide seated privacy, daylighting and exterior 'views' when standing and moving about. Daylight entry will also be enhanced by a clerestory or dormer design, but, because of the more intense light levels entering the longer east-west window banks, adequate shading will be required for good light quality (vertical blinds and Neco shades were suggested). Whether or not security windows are required will be determined.

Solatube® operation

The maintenance staff questioned the water-tightness of skylights; several others described the ease and durability of Solatube® assemblies to add daylight to interior spaces.[4] Ed Simpson, the project's commissioning agent, recommends them and agreed to provide information.

Finishes and Specialties (MasterFormat™ 09 to 10)

A number of flooring materials were considered: carpeting, vinyl tile or sheet goods, stained or patterned concrete, etc. We chose a recycled-content carpet tile for comfort and acoustic quieting for the staff office side, and easy-to-maintain, sealed but unstained concrete for floors in the offender side of the building. The main entrance will have a walk-off mat. Vinyl tile for the common interior areas was discussed. A 'greener' alternative is linoleum, a more durable, organic product that doesn't require a poisonous, carcinogenic gas to produce.[5]

Walls separating the staff and inmate areas must be reinforced for security. Since they fail acoustically, there will be no moveable walls in any of the conference/group therapy rooms. In hallways, a medium-density fiberboard wainscoting and/or wall guard would protect the paint and wallboard from the inevitable bumps associated with heavy use. Stu suggested LEED's sustainable wood credit could be inexpensively earned here if a wood railing were

[4] The Solatube® picture is from www.solatube.com. The site also has tips on achieving LEED points (http://www.solatube.com/commercial/com_leeds.php).

[5] Vinyl chloride gas, used in the production of all vinyl, is highly toxic and a powerful carcinogen. It is also released if vinyl (#3 in the recycling triangle) is burned. Most plastic wrapping on meat at the grocery is vinyl film, used, ironically enough, because it can 'breathe.' *Linoleum*, as a class of flooring products, is very wear-resistant and resilient, made of renewable materials, and comes in both tiles and sheets.

specified to top the wainscoting; since there will be little wood in the overall project, a railing made entirely of Forest Stewardship Council wood, could satisfy the credit.

Stu also described a wall-applied product now available to replace both white board and projection screens.[6] Anna will check on its feasibility in the larger class/group rooms.

Restroom floors and walls in the splash areas will be finished in ceramic tile.[7] Durable, polycarbonate stall walls resist graffiti and can be mounted either to the floor or ceiling (maintenance staff had no preference). Stainless mirrors will be installed in the inmate restroom.

Operations staff intent on discussion
Co-facilitator Stuart Simpson in back in gray

All paints, coatings and adhesives needed will be specified with low-to-no volatile organic compounds (VOCs) to avoid compromising indoor air quality.

Equipment and Furnishings (MasterFormat™ 11 to 12)

Any appliances installed will be Energy Star®-rated. Correctional Industries (CI) will build the furnishings (office systems, tables, cabinets, etc.). We will check to see if CI can use rapidly-renewable plywood (wheat- or strawboard, sunflower hull board, bamboo) to build this furniture.[8] To extend the life of flooring finishes, all chair legs will have glides in contact with the floor: metal for carpeted areas and plastic for floor tiles.

Special Construction (MasterFormat™ 11 to 12)

This section had a number of subsections important to the security systems specific to a correctional facility. These included surveillance and access control strategies/hardware,

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[6] A quick search online showed one company selling a projectable, dry-erase film, another selling a specialized paint for projecting, and a few more companies selling a whiteboard wallpaper product. It is advisable to pilot the material chosen before specifying - the College of Natural Sciences at the University of Texas put a strong critique of the whiteboard wallpaper on their website. http://cns.utexas.edu/it/chalkboards.asp

[7] Recycled-content ceramic tile is available from a number of manufacturers, easily found online. http://www.buildinggreen.com/ecommerce/sample/GS5_listings.pdf

[8] As follow-up, Vicki called Mike Pracna and Sean Knight at CI about the possibility of using more sustainable materials and learned both are quite interested in pursuing product testing of such materials. They both mentioned that prototypes of such furniture will be tested for feasibility following ANSI/BIFMA (American National Standards Institute/Business and Institutional Furniture Manufacturing Association) performance standards. http://www.bifma.org/standards/standards.html

alarm types and operation, and whether the systems would be hardwired or wireless. During these discussions, one group member left the meeting to verify existing conduit capacity and routing. He reported back to the group within the hour with the necessary information.


Anna Crickmer noting decisions, Ron Haynes (left) and Jake Deering (right)

Of particular interest to the facilitators was the discussion of personnel duress or body alarms, their popularity, and how easily false alarms can be triggered – all new information to us! Please refer to Anna's capable capture of these details in her *AHCC Treatment Program Building: Initial Schematic Design Meeting* document.

Independent Commissioning Agent (MasterFormat™ 20.5)

Ed Simpson of Testcom, LLC, discussed the benefits of commissioning in assuring optimum building performance.


Janine Bogar with Ed Simpson, James Standish in front

Fire Suppression and Plumbing (MasterFormat™ 21 and 22)

The new facility will have a sprinkler fire-suppressing system, like the other buildings near it. After an entertaining review of low-flush toilet varieties, and despite a resounding repetition of "NO WATERLESS URINALS!" Stu encouraged the group to set a goal for maximum water savings with low-flow fixtures and pint-flush urinals, double-flush toilets, 'automated' faucets and foamed soap dispensers.[9] Reclaimed water use for toilet flushing may be possible soon, so it is prudent to double-plumb with purple pipe for later hookup, and plumb to the mechanical room. Rainwater (tricky water rights) and gray water (inadequate generation in building) were discussed but will not be pursued, and there is to be no landscape irrigation.

[9] Vicki recommended these since the air-infused liquid has superior wetting and cleansing properties and significantly reduces the quantity of soap needed. Touch-free foamed soap dispensers save water as well as money in soap costs. The internet has a variety of types to evaluate for purchase.

Mechanical Systems (MasterFormat™ 21)

This discussion really began with a good explanation of the benefits of *integrated design* by John Cuddy, a principal of and structural engineer at Integrus. He explained that effective mechanical system designers think beyond the volume of air to be conditioned and the climate. Along with other professionals, they consider, then factor in, much wider influences: the building envelope performance, occupant activities as well numbers, building orientation, floor plan and openings, sun and wind characteristics, lighting approach, etc. Integrating these considerations and effects into the mechanical system design often pays off with big savings in energy use and cost, as well as in maintenance time and money.

For Airway Heights's newest facility, the onsite staff told the group that high-temperature water for heat is available from the existing central plant, as is chilled water; the loop already runs near the proposed entrance. For a building of this size, staff prefers one efficient central air unit located within the conditioned space for lower maintenance; zoned units seem problematic. Avista, the local utility, has a $1.25/SF incentive for displacement ventilation systems, which could offset the higher initial cost often associated with it. The group tossed around other options like radiant heat, evaporative cooling and under-floor distribution, dismissing each for either cost or O&M (operation & maintenance) reasons.

Installing heat exchangers in the water systems (upraised plate exchangers, no gaskets) found more fertile ground and will be evaluated.[10] All agreed to metering energy consumption (hardwired) and preferred a Siemans digital control system for the building. The feasibility of earning the LEED point on individual system controllability was debated; the consensus seemed to be limited thermostats with temperature controls from a central computer in Dick Morris's office were better, versus temperature controls in each space.

Excellent air quality depends on ventilation effectiveness, as well as on the materials and cleaning products used in the building. It was suggested and agreed that carbon dioxide monitors throughout would help ameliorate impacts of inoperable windows. Another effective strategy is installing high-efficiency filters in the air-handling units ("Make them easy to change, too!"- participant comment). Anna specified ACA HIMS-rated[11] cleaning materials, which could earn an Innovation in Design point from LEED.

[10] Because of the climate's temperature variations, it may also be prudent to evaluate heat exchangers in line with the fresh air intake(s) and exhaust vent(s).

[11] American Correctional Association Health Information Management System

Electrical Systems and Communications (MasterFormat™ 22 and 27)

Daylit spaces and the design necessary to optimize available daylight will be tested at the Lighting Lab. Efficient florescent fixtures will supplement daylight for general illumination, as will task lighting where appropriate within the building (offices). Installing exterior cut-off fixtures that can be directed to minimize light pollution will be done, if this is possible without compromising site security.

There appears to be adequate existing electrical capacity. Onsite renewable systems did not seem feasible to the group, though Green Power purchasing will be pursued, as will any applicable energy conservation incentives offered by Avista.

It was estimated that two 24-port digital cards would be needed for adequate communications, as well as phone sets and adequate lines (faxing takes a lot of phone lines) - probably six outside DID lines.[12] Controls are to be addressable both in the building and at the master control center.

At 2 p.m. when Anna and James left to meet with contractor candidates, the group resolved the three items 'parked' for further discussion: glass, inmate access, security needs. We also had time to fill out a good portion of the LEED checklist and reported the results to Anna and James when they returned.

Earthwork and Exterior Improvements (MasterFormat™ 31 and 32)

Since the site is flat already, and the foundation will be slab-on-grade, grading will be minimal. Line of sight is required for security, so the site 'landscape' choices are very limited: short native grasses or a more xeric mix could be considered for the small green area in front, as could a strip of porous concrete for the building entry. The remaining area is expected to be graveled. Swales will be constructed to absorb runoff, so no stormwater will leave the site.

The flat project site: view from the service road with high-voltage power station in center photo

[12] Direct Inward Dialing (DID, also called DDI in Europe) is a feature offered by telephone companies for use with their customers' PBX systems, whereby the telephone company (telco) allocates a range of numbers all connected to their customer's PBX. As calls are presented to the PBX, the number that the caller dialed is also given, so the PBX can route the call to the desired person or bureau within the organization. (http://en.wikipedia.org/wiki/Direct_Inward_Dialing)

Utilities and Transportation (MasterFormat™ 33 and 34)

Decisions made for a number of elements of this category (domestic and stormwater, power, communication lines) have been described in previous sections.

Anna presented information on a submerged membrane bio-reactor for wastewater treatment.[13] Bioreactors produce better effluent quality when compared to standard sand filtration technologies. This new direction in water treatment has Department of Health testing requirements and needs continual input, which may raise feasibility questions for this project. Also, a municipal sewer already serves the facility. King County Metro did a study on this type of bio-reactor recently (the photo of a micro-filtration membrane unit is from their website: http://dnr.metrokc.gov/wtd/reuse/alternatives.htm)

A submerged membrane bio-reactor

Recycling collection and storage will be provided, probably in the small storage room. The design team will address the need for easy access to accommodate the regular maintenance required. Janine Bogar, DOC Sustainability Coordinator, gave an overview of composting options onsite, but all the options described need on-going maintenance by dedicated staff. In that the bulking agent for the more 'automated' digesters is hard to get, Janine is working with the City of Spokane to establish food- and yard-waste collection at the Correctional Center for composting by the municipality.

The service vehicle onsite is an electric golf cart. Installing another charging station in the building for this vehicle is a possibility, if it will help meet the applicable LEED credit. There is no new parking planned for this facility – staff already uses the existing parking lot and over 95% of the new building's users will arrive and leave on foot. Stu made a case for designating premium parking spaces for carpools and fuel-efficient vehicles in the existing lot. This may be pursued, if it gains LEED credit.

LEED Checklist Results and Recommendations

Stu reviewed each point on the LEED checklist (pages 18-19) to verify intent to pursue. When he added them up, the project looked like it would achieve a Gold rating. Anna

[13] A simple diagram and explanation of this technology appears on the University of New South Wales site: http://www.membrane.unsw.edu.au/research/docs/mbrwwt.pdf

reminded the group that the Design Team would re-evaluate each point in light of the budget and update the Checklist as needed.

Questions for Further Research by the Design Team:

1. Does LEED designate if onsite (like the electric cart) vehicles can be used to meet SS 4.3?
2. Does porous concrete meet SS 7.1?
3. Would existing and adequate bike racks and shower facilities count toward SS 4.2?
4. Will Correctional Industries be able to use rapidly-renewable materials to build the furniture?

Sustainable Building Goals for the Project

Anna reviewed the additional information she had noted for each of the SCI categories, and Vicki reviewed each of the initial goals on the whiteboard to check to see if they had been met to the satisfaction of the participants. They had. The meeting adjourned early.

Final Remarks

It has been a pleasure working with such an organized and dedicated group. We appreciate the work Corrections is doing on sustainability on behalf of both their staff and the prison population in their care. They set an important example for other agencies and jurisdictions to follow. The staff from Integrus was personable, informative and skilled at championing sustainable building goals. We look forward to seeing the completed – and LEED® Gold – facility!

The Airway Heights charrette team listens to Anna clarifying a point

Appendices to the Charrette Report: CHARRETTE PARTICIPANT LIST

(LISTED ALPHABETICALLY)

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Appendices to the Charrette Report: CHARRETTE AGENDA

AHCC Program Building

BUILDING DESIGN DISCUSSION AND DECISIONS

8:00 Project Manager Introduction

The purpose of this meeting is to discuss the systems available, user preferences, and other design considerations, and to select the most appropriate systems and materials. You are here to provide input, and then to make decisions.

These decisions will guide the completion of the Schematic Design. The Schematic Design Submittal (end of September) will contain a floor plan and narrative description of the facility systems, materials and finishes, in enough detail to provide a solid construction cost estimate. Additional "tweaking" will take place as design continues, but major guiding decisions need to be made now.

Attachment 1 is an outline of discussion is based on the Construction Specification Institute (CSI) Division system. LEED topics of discussion have been integrated into the outline. Discussion will be recorded on the outline, and the expected product of today's meeting is a Design Memorandum consisting of a conceptual floor plan and a selection of systems and materials.

The discussion is expected to be high-energy and creative. Sidebar discussions are allowed – and will probably be required in order to get through this much material in only 9 hours. Be sure to capture the results of the conversations: All options considered; brief rationale for selection/non selection.

We'll take group breaks at logical points in the discussion – you may take your own breaks as you need them. Sustenance has been provided – take as needed. We will work through lunch.

Attachment 2 lists participants, their primary responsibilities, and expectations for today's meeting.

8:10 Architect presents 3 conceptual floor plans **(Attachment 3)**
Ecology Staff Introduction to Eco-Charrette Topics and Expectations

9:00 Review of Functional Requirements

9:30 Structural and Architectural Materials

10:00 Thermal and Moisture Protection; Openings

10:30 Finishes and Specialties

11:00 Furnishings and Special Construction

11:30 Fire Protection/Fire Suppression

11:45 Mechanical Systems

12:15 Electrical Systems

12:45 Communications Systems and Electronic Safety and Security

1:15 Earthwork and Exterior Improvements

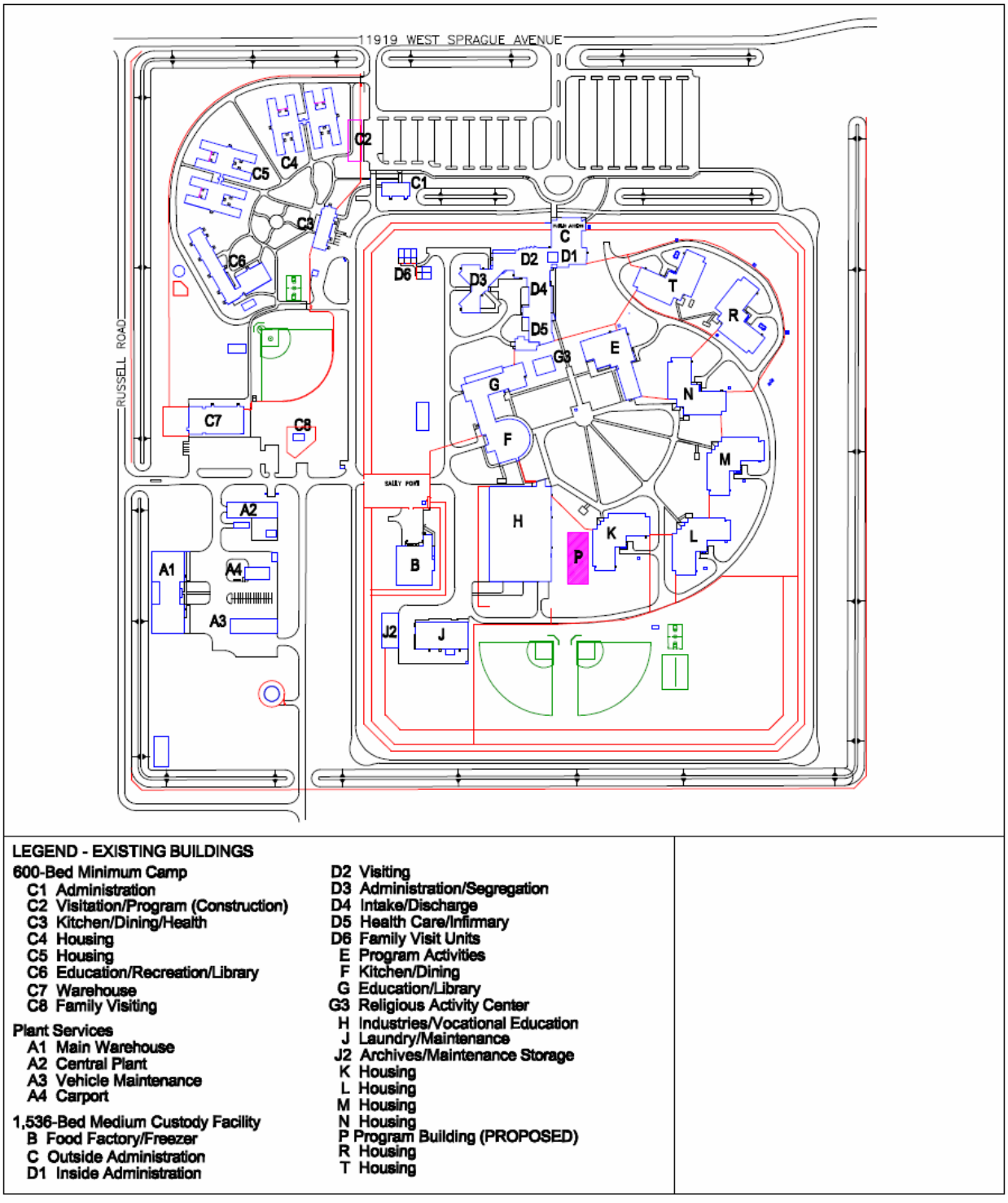
1:30 Utilities

2:00 In-depth discussion (subgroups by system)

4:00 Wrap up: Review notes as a group; confirm decisions.

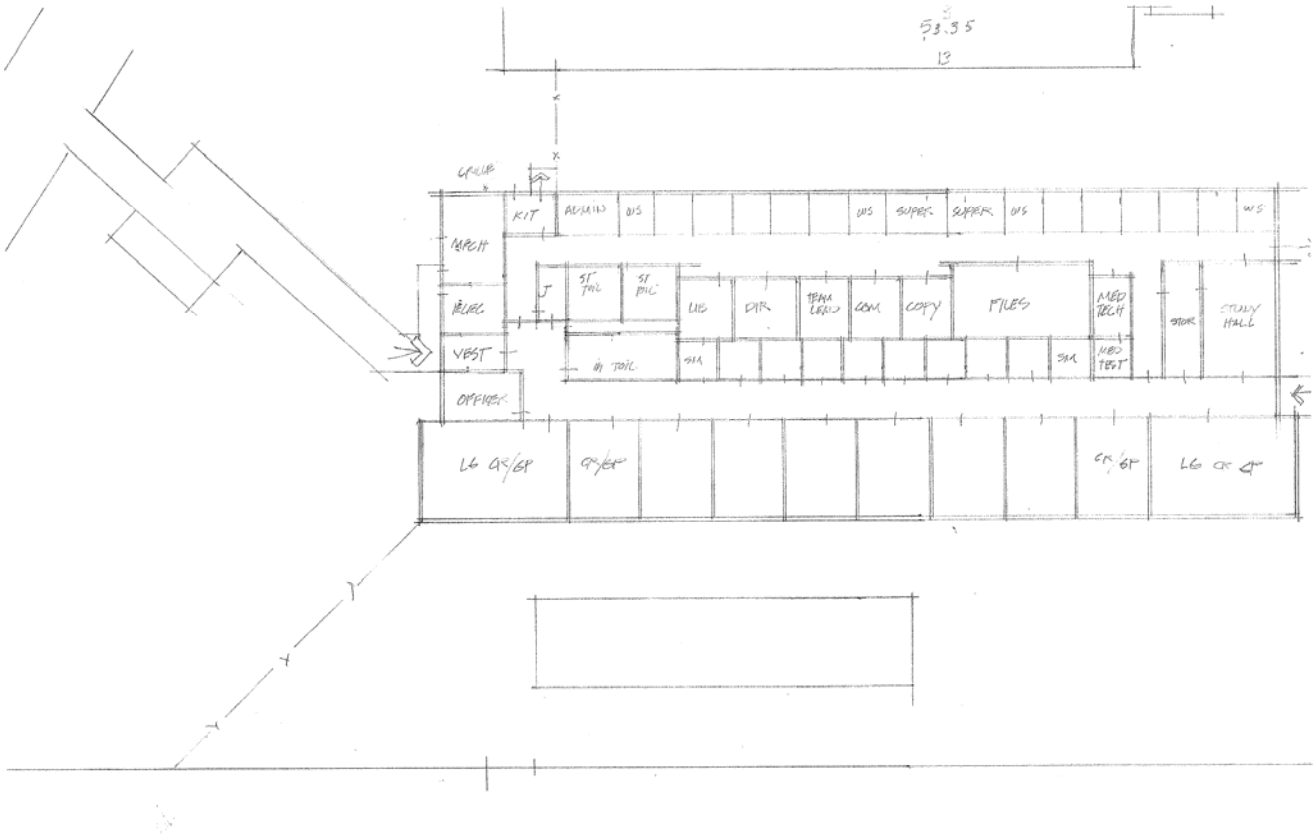
(Note: Please contact Anna Crickmer for the attachments mentioned in this agenda. Her contact information is listed in the roster, above.)

Appendices to the Charrette Report: AHCC SITE MAP



AIRWAY HEIGHTS CORRECTIONS CENTER SITE PLAN
AUGUST 2007

Appendices to the Charrette Report: REVISED PROJECT MAP



Project Name: AHCC Program Building
Project Description: 10,000 SF Program Building
MACC: $3,100,000

Yes	?	No		
6	3	5	**Sustainable Sites**	14 Points

Y						
			Prereq 1	32	**Erosion & Sedimentation Control**	Required
1			Credit 1	1	**Site Selection**	1
		1	Credit 2	1	**Development Density**	1
		1	Credit 3	1	**Brownfield Redevelopment**	1
		1	Credit 4.1	34	**Alternative Transportation**, Public Transportation Access	1
1			Credit 4.2	34	**Alternative Transportation**, Bicycle Storage & Changing Rooms	1
	1		Credit 4.3	34	**Alternative Transportation**, Alternative Fuel Vehicles	1
1			Credit 4.4	34	**Alternative Transportation**, Parking Capacity and Carpooling	1
		1	Credit 5.1	1	**Reduced Site Disturbance**, Protect or Restore Open Space	1
		1	Credit 5.2	1	**Reduced Site Disturbance**, Development Footprint	1
1			Credit 6.1	33	**Stormwater Management**, Rate and Quantity	1
1			Credit 6.2	33	**Stormwater Management**, Treatment	1
	1		Credit 7.1	32	**Landscape & Exterior Design to Reduce Heat Islands**, Non-Roof	1
	1		Credit 7.2	7	**Landscape & Exterior Design to Reduce Heat Islands**, Roof	1
1			Credit 8	26	**Light Pollution Reduction**	1

Yes	?	No		
4	1	0	**Water Efficiency**	5 Points

1			Credit 1.1	32	**Water Efficient Landscaping**, Reduce by 50%	1
1			Credit 1.2	33	**Water Efficient Landscaping**, No Potable Use or No Irrigation	1
	1		Credit 2	33	**Innovative Wastewater Technologies**	1
1			Credit 3.1	33	**Water Use Reduction**, 20% Reduction	1
1			Credit 3.2	33	**Water Use Reduction**, 30% Reduction	1

Yes	?	No		
7	2	3	**Energy & Atmosphere**	17 Points

Y						
Y			Prereq 1	1	**Fundamental Building Systems Commissioning**	Required
Y			Prereq 2	23/26	**Minimum Energy Performance**	Required
Y			Prereq 3	23/26	**CFC Reduction in HVAC&R Equipment**	Required
5			Credit 1	23/26	**Optimize Energy Performance**	1 to 10
			1		15% New Buildings or 5% Existing Building Renovations	1
			1		20% New Buildings or 10% Existing Building Renovations	2
			1		25% New Buildings or 15% Existing Building Renovations	3
			1		30% New Buildings or 20% Existing Building Renovations	4
			M		35% New Buildings or 25% Existing Building Renovations	5
					40% New Buildings or 30% Existing Building Renovations	6
					45% New Buildings or 35% Existing Building Renovations	7
					50% New Buildings or 40% Existing Building Renovations	8
					55% New Buildings or 45% Existing Building Renovations	9
					60% New Buildings or 50% Existing Building Renovations	10
		1	Credit 2.1	26	**Renewable Energy**, 5%	1
		1	Credit 2.2	26	**Renewable Energy**, 10%	1
		1	Credit 2.3	26	**Renewable Energy**, 20%	1
1			Credit 3	20.5	**Additional Commissioning**	1
	1		Credit 4	23	**Ozone Depletion**	1
	1		Credit 5	23	**Measurement & Verification**	1

1			Credit 6	26	**Green Power**	1

Yes	?	No		
4	4	5	**Materials & Resources**	**13** Points

Y			Prereq 1	33g	**Storage & Collection of Recyclables**	Required
		1	Credit 1.1	1	**Building Reuse**, Maintain 75% of Existing Shell	1
		1	Credit 1.2	1	**Building Reuse**, Maintain 100% of Shell	1
		1	Credit 1.3	1	**Building Reuse**, Maintain 100% Shell & 50% Non-Shell	1
1			Credit 2.1	1	**Construction Waste Management**, Divert 50%	1
1			Credit 2.2	1	**Construction Waste Management**, Divert 75%	1
		1	Credit 3.1	3/4/5/6	**Resource Reuse**, Specify 5%	1
		1	Credit 3.2	3/4/5/6	**Resource Reuse**, Specify 10%	1
1			Credit 4.1	3/4/5/6	**Recycled Content**, Specify 5% (post-consumer + ½ post-industrial)	1
	1		Credit 4.2	3/4/5/6	**Recycled Content**, Specify 10% (post-consumer + ½ post-industrial)	1
1			Credit 5.1	3/4/5/6	**Local/Regional Materials**, 20% Manufactured Locally	1
	1		Credit 5.2	3/4/5/6	**Local/Regional Materials**, of 20% Above, 50% Harvested Locally	1
	1		Credit 6	6	**Rapidly Renewable Materials**	1
	1		Credit 7	6	**Certified Wood**	1

Yes	?	No		
11	4	0	**Indoor Environmental Quality**	**15** Points

Y			Prereq 1	23	**Minimum IAQ Performance**	Required
Y			Prereq 2	23	**Environmental Tobacco Smoke** (ETS) **Control**	Required
1			Credit 1	23	**Carbon Dioxide** (CO_2) **Monitoring**	1
	1		Credit 2	23	**Ventilation Effectiveness**	1
1			Credit 3.1	23	**Construction IAQ Management Plan**, During Construction	1
1			Credit 3.2	23	**Construction IAQ Management Plan**, Before Occupancy	1
1			Credit 4.1	9	**Low-Emitting Materials**, Adhesives & Sealants	1
1			Credit 4.2	9	**Low-Emitting Materials**, Paints	1
1			Credit 4.3	9	**Low-Emitting Materials**, Carpet	1
1			Credit 4.4	6	**Low-Emitting Materials**, Composite Wood & Agrifiber	1
1			Credit 5	1/9/23	**Indoor Chemical & Pollutant Source Control**	1
1			Credit 6.1	23	**Controllability of Systems**, Lighting	1
	1		Credit 6.2	23	**Controllability of Systems**, Thermal Comfort	1
1			Credit 7.1	23	**Thermal Comfort**, Comply with ASHRAE 55-1992	1
	1		Credit 7.2	23	**Thermal Comfort**, Permanent Monitoring System	1
1			Credit 8.1	1/8/26	**Daylight & Views**, Daylight 75% of Spaces	1
	1		Credit 8.2	1/8/26	**Daylight & Views**, Views for 90% of Spaces	1

Yes	?	No		
4	0	1	**Innovation & Design Process**	**5** Points

1			Credit 1.1	**Innovation in Design**: Exemplary Perf WEc3	1
1			Credit 1.2	**Innovation in Design**: Green Seal Cleaning Post Construction	1
1			Credit 1.3	**Innovation in Design**:Exemplary Performance MRc4.1(50%Recycled)	1
		1	Credit 1.4	**Innovation in Design**:Exemplary Performance MRc5.(47.9% Re. mat)	1
1			Credit 2	**LEED™ Accredited Professional**	1

Yes	?	No		
36	14	14	**t Totals (pre-certification estimates)**	**69** Points

Certified: 26-32 points, **Silver:** 33-38 points, **Gold:** 39-51 points, **Platinum:** 52-69 points